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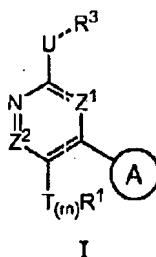
APR 11 2007

Applicants: Francois Maltais et al.  
Application No.: 10/798,766

# AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims with the amended claims as follows:

1. (Original) A compound of formula I:



or a pharmaceutically acceptable salt thereof, wherein:

Ring A is a pyrrole ring optionally substituted at the 1-position with  $R^2$  and substituted with:

- (i) two  $R^y$  groups, and
- (ii)  $QR^z$ ;

$R^z$  is R, C(O)R, C(O)OR, or  $SO_2R$ ;

each  $R^y$  is independently selected from an optionally substituted  $C_{1-6}$  aliphatic group, Ar, CN,

$NO_2$ , halogen,  $N(R)_2$ , SR, or OR, provided that both  $R^y$  groups are not simultaneously Ar;

$Z^1$  and  $Z^2$  are each independently selected from N or  $CR^x$ ;

each  $R^x$  is independently selected from R, halogen, CN,  $NO_2$ , OR, SR,  $N(R)_2$ , C(O)R, or  $CO_2R$ ;

U is selected from a valence bond, -O-, -S-, -N(R)-, or a  $C_{1-6}$  alkylidene chain wherein up to

two methylene units of U are optionally and independently replaced by -O-, -S-, -SO-,

- $SO_2$ -, -N(R) $SO_2$ -, - $SO_2N(R)$ -, -N(R)-, -CO-, - $CO_2$ -, -N(R)CO-, -N(R)C(O)O-,

-N(R)CON(R)-, -N(R) $SO_2N(R)$ -, -N(R)N(R)-, -C(O)N(R)-, or -OC(O)N(R)-;

T is a valence bond or a  $C_{1-6}$  alkylidene chain;

m is zero or one;

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$R^1$  is selected from CN, halogen,  $OR^6$ ,  $SR^6$ ,  $N(R)R^6$ , or  $R^4$ ;

Q is selected from a valence bond,  $-C(O)N(R)-$ ,  $-SO_2N(R)-$ ,  $-SO_2-$ ,  $-N(R)C(O)N(R)-$ ,  
 $-N(R)C(O)-$ ,  $-N(R)SO_2-$ ,  $-N(R)SO_2N(R)-$ ,  $-N(R)C(O)O-$ ,  $-C(O)-$ , or  $-C(O)O-$ ;

$R^2$  is selected from halogen, CN,  $(CH_2)_yR^5$ ,  $(CH_2)_yCH(R^5)_2$ ,  $(CH_2)_yCH(R^7)CH(R^5)_2$ ,  
 $(CH_2)_yN(R^4)_2$ , or  $N(R^4)(CH_2)_yN(R^4)_2$ ;

y is 0-6;

each Ar is independently selected from an optionally substituted 3-7 membered saturated,  
 partially unsaturated, or fully unsaturated monocyclic ring having 0-4 heteroatoms  
 independently selected from nitrogen, oxygen, or sulfur, or an optionally substituted 8-10  
 membered saturated, partially unsaturated, or fully unsaturated bicyclic ring having 0-4  
 heteroatoms independently selected from nitrogen, oxygen, or sulfur;

$R^3$  is selected from R, Ar,  $(CH_2)_yCH(R^7)R^5$ , CN,  $(CH_2)_yCH(R^7)CH(R^5)_2$ , or  
 $(CH_2)_yCH(R^7)N(R^4)_2$ ;

each R is independently selected from hydrogen or an optionally substituted  $C_{1-6}$  aliphatic  
 group, or:

two R on the same nitrogen atom are taken together with the nitrogen atom attached thereto  
 to form a 4-8 membered saturated, partially unsaturated, or fully unsaturated ring having  
 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur;

each  $R^4$  is independently selected from  $R^6$ ,  $C(O)R^6$ ,  $CO_2R^6$ ,  $CON(R^6)_2$ ,  $SO_2R^6$ ;

each  $R^5$  is independently selected from  $R^6$ ,  $OR^6$ ,  $CO_2R^6$ ,  $(CH_2)_yN(R^4)_2$ ,  $N(R^4)_2$ ,  $N(R)C(O)R^6$ ,  
 $N(R)CON(R^6)_2$ ,  $CON(R^6)_2$ ,  $SO_2R^6$ ,  $N(R)SO_2R^6$ ,  $C(O)R^6$ , CN, or  $SO_2N(R^6)_2$ ;

each  $R^6$  is independently selected from R or Ar;

$R^7$  is selected from  $R^6$ ,  $(CH_2)_wOR^6$ ,  $(CH_2)_wN(R^4)_2$ , or  $(CH_2)_wSR^6$ ; and

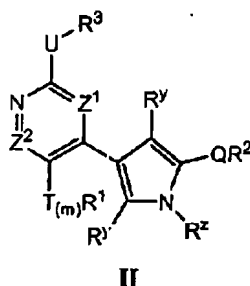
each w is independently selected from 0-4;

provided that:

when  $R^1$  is hydrogen, U is  $-NH-$ , and  $R^3$  is an optionally substituted phenyl ring, then Q is  
 other than a valence bond.

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2. (Original) The compound according to claim 1, wherein said compound is of formula II:



or a pharmaceutically acceptable salt thereof.

3. (Original) The compound according to claim 2, wherein:

$R^1$  is selected from hydrogen,  $N(R^4)_2$ ,  $OR^6$ , 3-6 membered carbocyclyl, or an optionally substituted group selected from  $C_{1-6}$  aliphatic or a 5-6 membered aryl ring having 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur;

$R^2$  is selected from  $(CH_2)_yR^5$ ,  $(CH_2)_yCH(R^5)_2$ ,  $(CH_2)_yCH(R^7)CH(R^5)_2$ , or  $(CH_2)_yN(R^4)_2$ ;

$R^3$  is selected from hydrogen,  $CH(R^7)R^5$ , 3-7 membered carbocyclyl or an optionally substituted group selected from  $C_{1-4}$  aliphatic, a 3-6 membered heterocyclic ring having 1-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered aryl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur; and

U is selected from a valence bond,  $-CH_2-$ ,  $-O-$ ,  $-NR-$ ,  $-NHCO-$ , or  $-NHCO_2-$ .

4. (Original) The compound according to claim 3, wherein  $R^2$  is  $(CH_2)_yR^5$ ,  $(CH_2)_yCH(R^5)_2$ , or  $(CH_2)_yCH(R^7)CH(R^5)_2$ .

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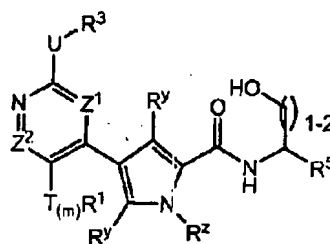
5. (Original) The compound according to claim 3, wherein Q is -C(O)N(R)- or -C(O)O-.

6. (Original) The compound according to claim 2, wherein R<sup>3</sup> is 3-7 membered carbocyclyl or an optionally substituted group selected from C<sub>1-4</sub> aliphatic, a 3-6 membered heterocyclic ring having 1-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered aryl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur.

7. (Original) The compound according to claim 2, wherein R<sup>3</sup> is CH(R<sup>7</sup>)R<sup>5</sup>.

8. (Original) The compound according to claim 2, wherein R<sup>3</sup> is a 3-6 membered heterocyclic ring having 1-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur.

9. (Original) The compound according to claim 1, wherein said compound has the formula III:

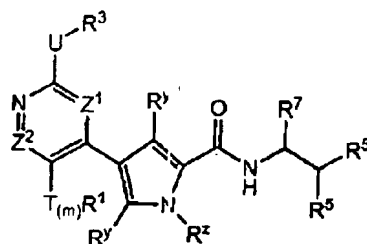


III

or a pharmaceutically acceptable salt thereof.

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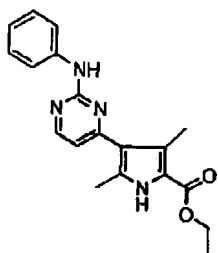
10. (Original) The compound according to claim 1, wherein said compound has the formula IV:



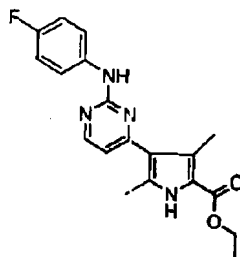
IV

or a pharmaceutically acceptable salt thereof.

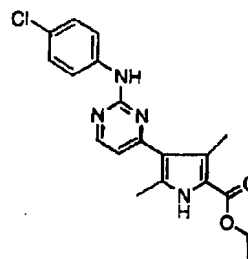
11. (Original) The compound according to claim 1, wherein said compound is selected from the group consisting of:



I-1

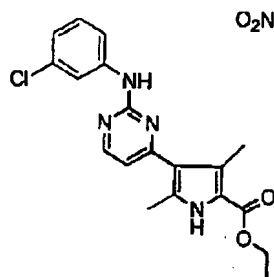


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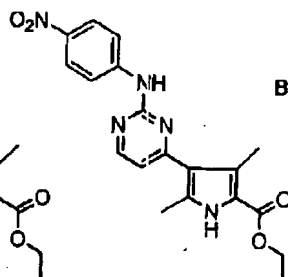


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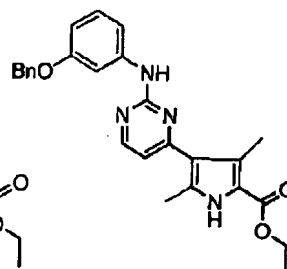
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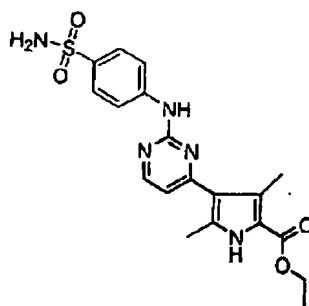
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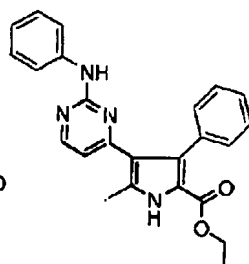
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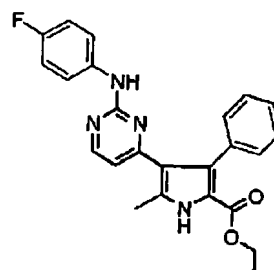
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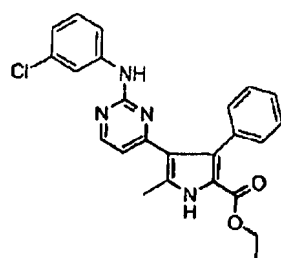
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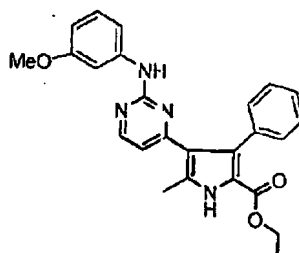
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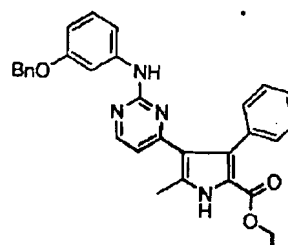
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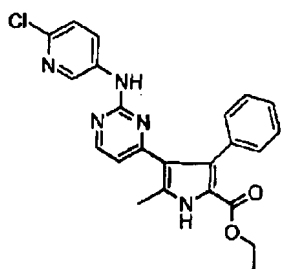


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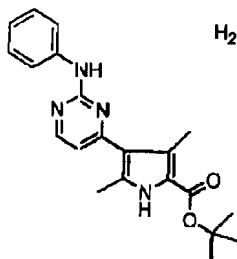


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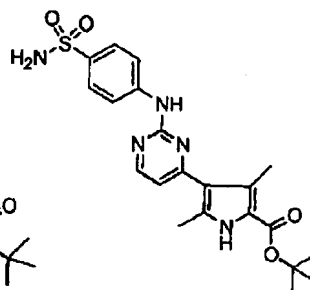
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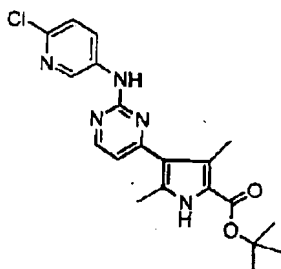
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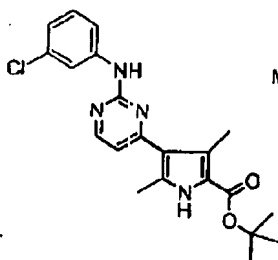
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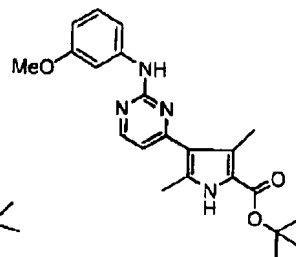
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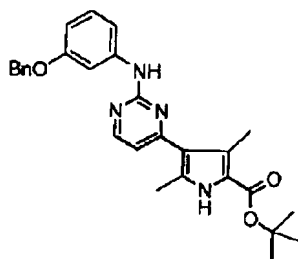
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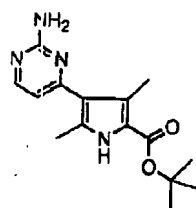
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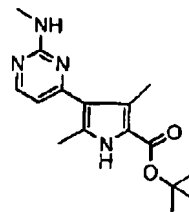
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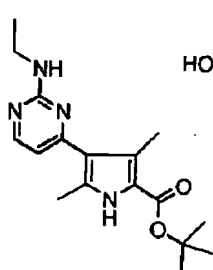


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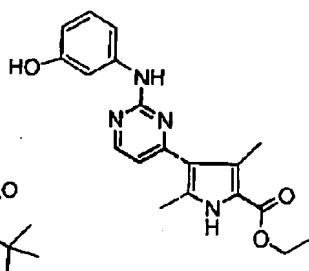


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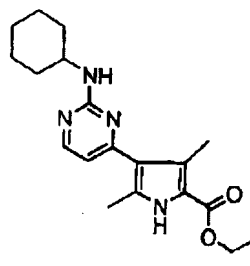
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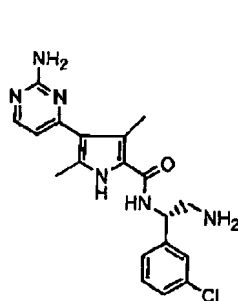
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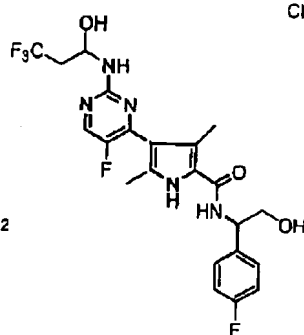
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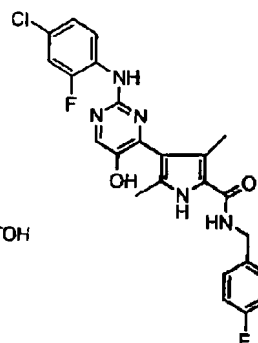
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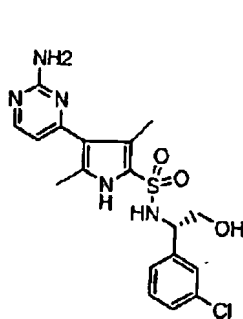
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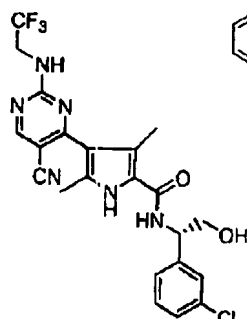
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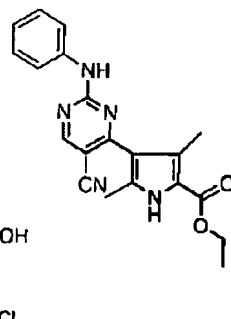
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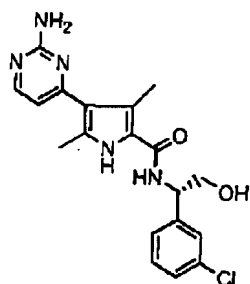
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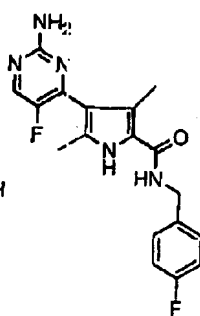
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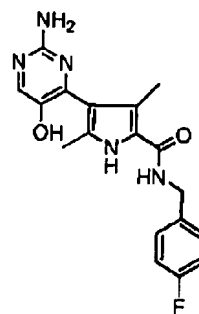
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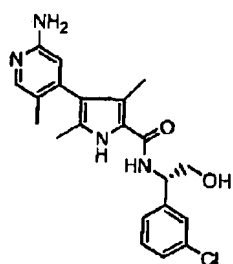
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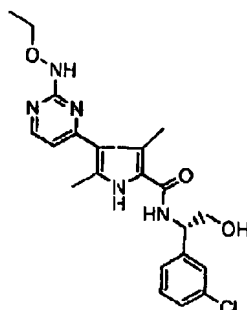
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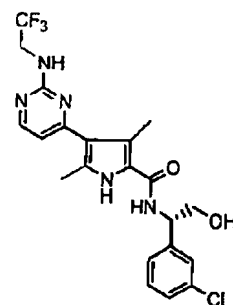
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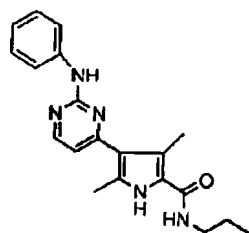
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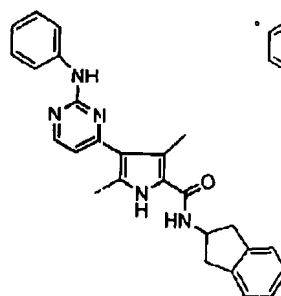
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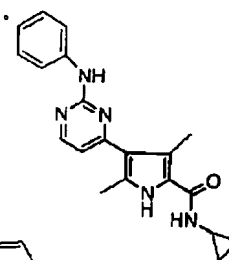
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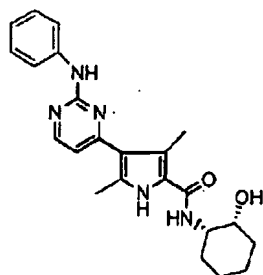


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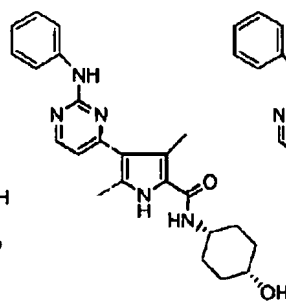


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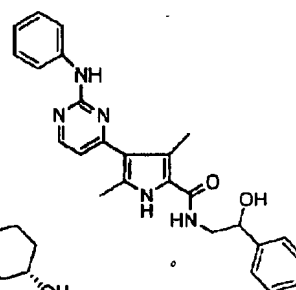
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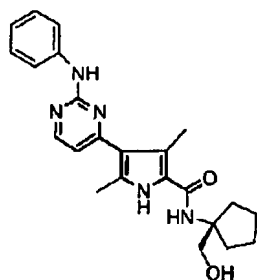
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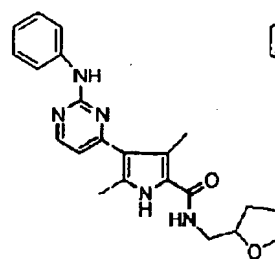
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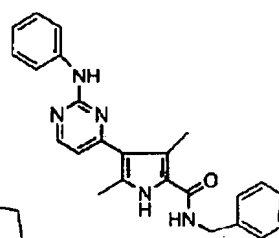
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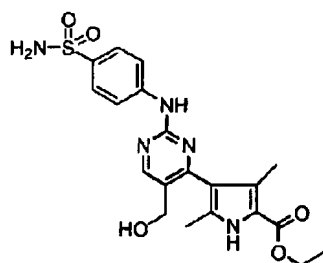
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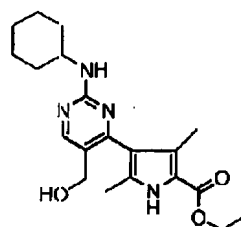
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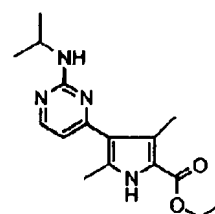
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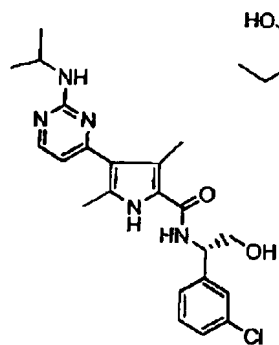


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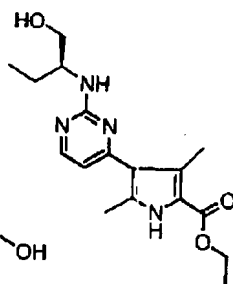


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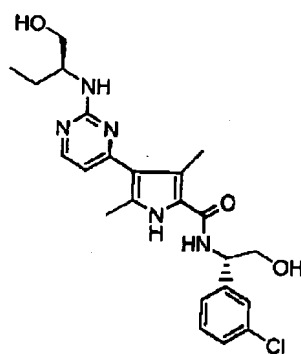
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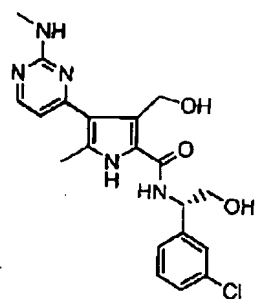
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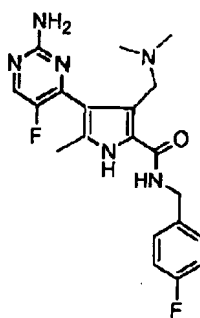
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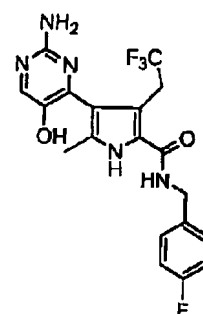
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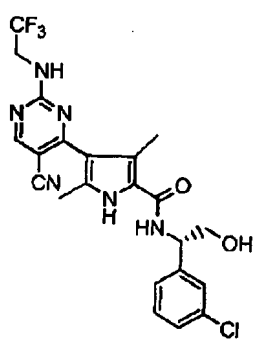
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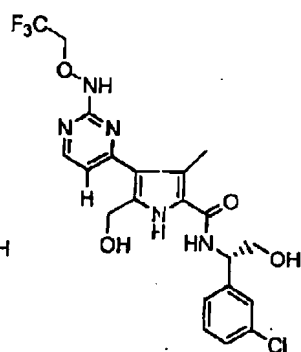
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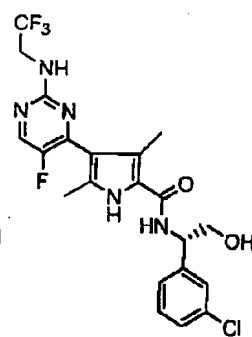
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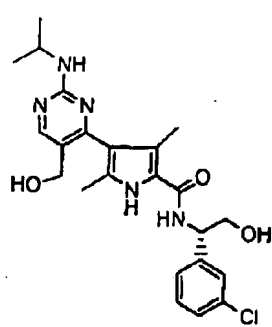


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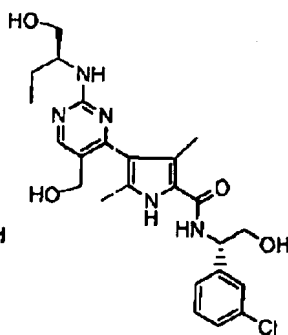


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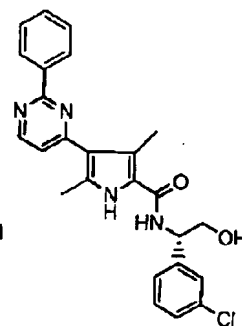
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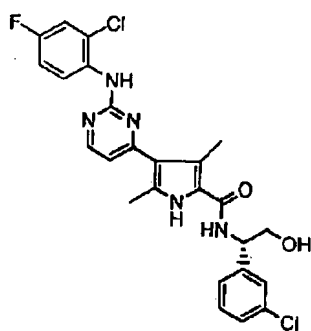
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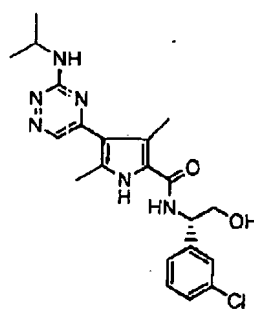
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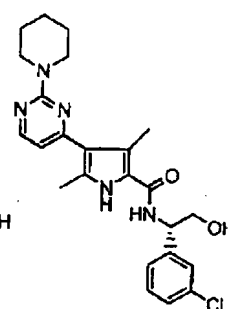
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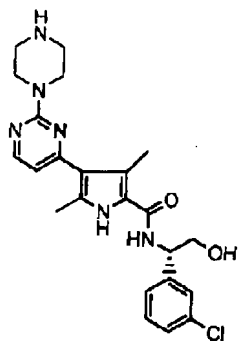
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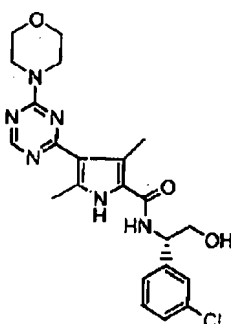
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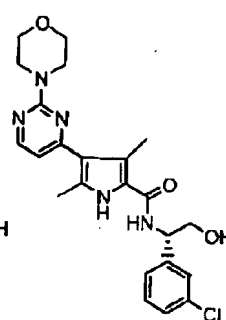
I-63



I-64

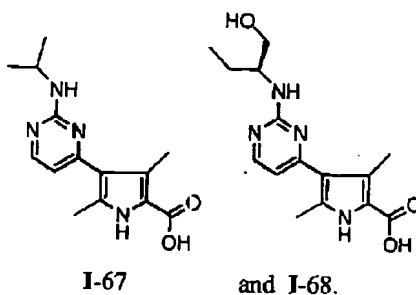


I-65



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12. (Original) A composition comprising an effective amount of a compound according to claim 1, and a pharmaceutically acceptable carrier, adjuvant, or vehicle.

13. (Canceled).

14. (Currently amended) The composition of claim 12, additionally comprising a therapeutic agent selected from a chemotherapeutic or anti-proliferative agent selected from mechlorethamine, chlorambucil, cyclophosphamide, melphalan, ifosfamide, methotrexate, 6-mercaptopurine, 5-fluorouracil, cytarabine, gemcitabine, vinblastine, vincristine, vinorelbine, paclitaxel, etoposide, irinotecan, topotecan, doxorubicin, bleomycin, mitomycin, carmustine, lomustine, cisplatin, carboplatin, asparaginase, tamoxifen, leuprolide, flutamide, megestrol, imatinib (Gleevec™), adriamycin, dexamethasone, or cyclophosphamide, an anti-inflammatory agent, an immunomodulatory or immunosuppressive agent, an agent for treating a neurological disorder, an agent for treating cardiovascular disease, an agent for treating destructive bone disorders, an agent for treating liver disease, an anti-viral agent, an agent for treating blood disorders, an agent for treating diabetes, or an agent for treating immunodeficiency disorders.

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15. (Withdrawn, currently amended) A method of inhibiting ERK2, JNK3, SRC, Aurora2, or GSK3 protein kinase activity in a biological sample selected from a cell culture, saliva, urine, feces, semen, tears, or an extract thereof, which method comprises contacting said biological sample in vitro with:

- a) a composition according to claim 12; or
- b) a compound according to claim 1.

16. (Canceled).

17. (Withdrawn, currently amended) A method of treating or lessening the severity of a disease, condition or disorder, in a patient in need thereof, selected from a proliferative disorder selected from breast cancer, colon cancer, kidney carcinoma, lung cancer, melanoma, ovarian cancer, pancreatic cancer, or prostate cancer, ~~a cardiac disorder, a neurodegenerative disorder, an autoimmune disorder, a condition associated with organ transplant, an inflammatory disorder, an immunologically mediated disorder, or a bone disorder,~~ comprising the step of administering to said patient:

- a) a composition according to claim 12; or
- b) a compound according to claim 1.

18. (Withdrawn, currently amended) The method according to claim 17, comprising the additional step of administering to said patient an additional therapeutic agent selected from a chemotherapeutic or anti-proliferative agent selected from mechlorethamine, chlorambucil, cyclophosphamide, melphalan, ifosfamide, methotrexate, 6-mercaptopurine, 5-fluorouracil, cytarabine, gemcitabine, vinblastine, vincristine, vinorelbine, paclitaxel, etoposide, irinotecan, topotecan, doxorubicin, bleomycin, mitomycin, carmustine, lomustine, cisplatin, carboplatin, asparaginase, tamoxifen, leuprolide, flutamide, megestrol, imatinib (Gleevec™), adriamycin, dexamethasone, or cyclophosphamide, an anti-inflammatory agent,

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~~an immunomodulatory or immunosuppressive agent, a neurotrophic factor, an agent for treating cardiovascular disease, an agent for treating destructive bone disorders, an agent for treating liver disease, an anti-viral agent, an agent for treating blood disorders, an agent for treating diabetes, or an agent for treating immunodeficiency disorders, wherein:~~

- ~~(a) said additional therapeutic agent is appropriate for the disease being treated; and~~
- ~~(b) said additional therapeutic agent is administered together with said composition as a single dosage form or separately from said composition as part of a multiple dosage form.~~

19-29. (Canceled)